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Accelovate Maternal Health Drug Business Assessments User Guide

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Accelovate is a global program dedicated to increasing the availability and use of lifesaving innovations for low-resource settings. Led by Jhpiego, the Accelovate program began in 2011 as a five-year, United States Agency for International Development (USAID)-funded program under the Technologies for Health (T4H) grant.

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ABBREVIATIONS

AMTSL	Active Management of the Third Stage of Labor
g	Gram
IU	International Units
IV	Intravenous
µg	Microgram
MgSO ₄	Magnesium Sulfate
MH	Maternal Health
mL	Milliliter
PE/E	Pre-Eclampsia/Eclampsia
PPH	Postpartum Hemorrhage
RH	Reproductive Health
SA	South Asia
SEA	Southeast Asia
SSA	Sub-Saharan Africa

The following geographic regions are defined below:

1. Sub-Saharan Africa: All countries of Africa except the northern African countries of Algeria, Egypt, Libya, Morocco, Tunisia, and Western Sahara.
2. Southeast Asia: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, Vietnam
3. South Asia: Afghanistan, Bangladesh, Bhutan, India, Iran, Maldives, Nepal, Pakistan, Sri Lanka

Introduction

In an effort to expand access to affordable, quality maternal health (MH) medicines, Jhpiego has built business cases for investing in high-quality MH drugs in low-resource settings. These business cases collectively map manufacturers of MH medicines, approximate market sizes for the medicines, and characterize market dynamics. Ultimately, we hope to promote investment in the production and supply of high-quality MH products that will be affordable for African and southeast Asian markets. Support for this project was provided by PATH on behalf of the Reproductive Health Supplies Coalition.

This effort has generated three written case studies: on oxytocin, misoprostol, and magnesium sulfate (MgSO₄). In addition, an “Accelovate Maternal Health Drug Business Assessments” Excel file contains global market data pertaining to these three products. The Excel file will allow users to examine our data and to manipulate assumptions to generate tailored market projections.

User Guide

This *User Guide* supports the Excel file containing global market data related to MH products for the prevention and treatment of postpartum hemorrhage (PPH) and pre-eclampsia/eclampsia (PE/E).

Our analysis uses demand, wholesale cost, and dosage assumptions to project the market size and dynamics for three essential MH drugs—oxytocin, misoprostol, and MgSO₄. The analysis has been built so that users can adjust the demand, cost, or dosage assumptions to generate market projections.

For each drug, we have outlined (1) background information, (2) key assumptions that can be manipulated, (3) key outcomes generated, and (4) calculations used for analysis. In the Excel file, assumptions are highlighted for ease of reference:

- Basic demographic indicators—blue

- Dosage assumptions—red

- Cost assumptions—green

- Other assumptions—purple

Manipulating these highlighted cells will trigger subsequent adjustments in key outcomes, tables, and graphs.

Users can also build in adjustments for population growth and inflation rates. For population growth, users should seek regional and country population projections

through 2050 at the [Census Bureau](#) website. For inflation, users can adjust the inflation multiplier to reflect the year of projection and a given country. 2014 was used as the starting base year 0, with a 1.7% U.S. assumed inflation rate.¹

Contents Overview

MgSO4

Includes PE/E-specific market information, market estimations at world and regional levels, and MgSO4 dosage estimations.

Oxytocin

Includes PPH-specific market information, market estimations at world and regional levels, and oxytocin dosage estimations.

Misoprostol

Includes PPH-specific market information, market estimations at world and regional levels, and misoprostol dosage estimations.

MgSO4 Cost

Includes dosage- and cost-specific market information for MgSO4.

Oxytocin Cost

Includes dosage- and cost-specific market information for oxytocin.

Misoprostol Cost

Includes dosage- and cost-specific market information for misoprostol.

Magnesium Sulfate (MgSO4)

MARKET ESTIMATION

Background

MgSO4 is the primary drug of choice for the prevention of severe preeclampsia or eclampsia in patients.

MgSO4 can only be administered in an institutional setting due to its complex dosing mechanism.

On-site facility quality studies for MgSO4 are unavailable or not well documented. Quality was thus ignored in the MgSO4 market analysis and

¹ "Inflation Rate - Forecast," 2014, Trading Economics. <http://www.tradingeconomics.com/forecast/inflation-rate>

therefore, we must assume that all available MgSO4 is also of adequate quality.

Assumptions

Birth rate

Percentage of births occurring in a facility or community setting

Prevalence of PE/E (low and high estimates)

MgSO4 availability at facilities

Key Outputs

Total additional potential market for MgSO4

Table 1. Summary of Variables: MgSO4

Variable	Description	Notes
Total Addressable Market for PE/E	Total annual cases of PE/E	This group represents all women who give birth annually that develop PE/E. ² PE/E has a 1%–2.8% incidence rate. ³
Total Community Births	Total number of pregnant women who do not give birth	63% (world), 48% (sub-Saharan Africa [SSA]), and 44% (southeast Asia [SEA]) of births take place in an institutional setting. ⁴
Total Facility Births	Total number of pregnant women who give birth in an institutional setting	
Total Facility Births w/o MgSO4	Total number of pregnant women who deliver in an institutional setting but do not receive MgSO4 due to unavailability	MgSO4 is regularly available 76% of the time. ⁵
Total Facility Births w/ MgSO4	Total number of pregnant women who deliver in an institutional setting and	

² “World Population Data Sheet,” 2013, Population Reference Bureau. http://www.prb.org/pdf13/2013-population-data-sheet_eng.pdf.

³ Abalos, E., C. Cuesta, G. Carroli, Z. Qureshi, M. Widmer, J. P. Vogel, and J. P. Souza, on behalf of the WHO Multicountry Survey on Maternal and Newborn Health Research Network. 2014. “Pre-eclampsia, Eclampsia and Adverse Maternal and Perinatal Outcomes: A Secondary Analysis of the World Health Organization Multicountry Survey on Maternal and Newborn Health.” *BJOG: An International Journal of Obstetrics & Gynaecology* 121 (s1): 14–24. doi: 10.1111/1471-0528.12629.

⁴ “State of the World’s Children,” 2014, UNICEF. <http://www.unicef.org/sowc2014/>

⁵ Smith, Jeffrey, Sheena Currie, Julia Perri, Julia Bluestone, and Tirza Cannon. 2012. *National Programs for the Prevention and Management of Postpartum Hemorrhage and Pre-Eclampsia/Eclampsia: A Global Survey, 2012*. Washington, DC: MCHIP and USAID.

	receive MgSO4	
Total Additional Potential Market for MgSO4	Total number of pregnant women who do not receive MgSO4 because they do not deliver in an institutional setting and/or the drug is unavailable	This group represents the neglected market for MgSO4.

Calculations

$$\text{Total Addressable Market for PE/E} = (\text{Population} / 1000) \times \text{Births per 1000 persons} \times \% \text{ Prevalence of PE/E}$$

$$\text{Total Community Births} = \text{Total Addressable Market for PE/E} \times (1 - \% \text{ Facility Births})$$

$$\text{Total Facility Births} = \text{Total Addressable Market for PE/E} \times \% \text{ Facility Births}$$

$$\text{Total Facility Births w/o MgSO4} = \text{Total Facility Births} \times (1 - \% \text{ MgSO4 Availability})$$

$$\text{Total Facility Births w/ MgSO4} = \text{Total Facility Births} \times \% \text{ MgSO4 Availability}$$

$$\begin{aligned} \text{Total Additional Potential Market for MgSO4} &= \text{Total Addressable Market for PE/E} - \text{Total Facility Births w/ MgSO4} \\ &\text{OR sum all neglected persons:} \\ &= \text{Total Community Births} + \text{Total Facility Births w/o MgSO4} \end{aligned}$$

DOSAGE ESTIMATIONS

Background

Ideally, all pregnant women delivering at a facility would receive treatment if severe PE were to occur. To calculate total dosages required to treat the entire facility-based delivery market, we compare the Pritchard and Zuspan regimens.⁶

The Pritchard regimen requires a loading dose of 4g/20mL (4 grams in 20 milliliters)

⁶ Malik, Maheen, and Beth Yeager. 2014. *Estimation of Unmet Medical Need for Essential Maternal Health Medicines*. Arlington, VA: Management Sciences for Health.

20% solution and two doses of 5g/10mL 50% solutions to be administered, followed by one 5g/10mL 50% solution injection every four hours for 24 hours. Healthcare workers are expected to mix MgSO₄ with intravenous (IV) fluid to produce the desired solution for use. For simplicity's sake, we have referred to Malik and Yeager (2014),⁷ who's formula requires 39g of MgSO₄—or eight 5g/10mL ampules—to treat one case of severe PE or eclampsia.

The Zuspan regimen requires a loading dose of 4g/20mL 20% solution to be administered via IV over 15–20 minutes, followed by 1g via IV per hour for 24 hours. For simplicity's sake, we disregarded the required maintenance dose: 2g/4mL 50% solution if convulsions occur after the loading dose is given. We again referred to Malik and Yeager (2014),⁸ who's formula requires 28g of MgSO₄—or six 5g/10mL ampules—to treat one case of severe PE or eclampsia.

Assumptions

Pritchard Dosing Guidelines: 1 dose = 39g; 8 ampules needed to treat PE/E

Zuspan Dosing Guidelines: 1 dose = 28g; 6 ampules needed to treat PE/E

Key Outputs

Low and high estimates for the number of MgSO₄ doses required to treat PE/E cases at facilities

Calculations

Total 39g Doses Required to Treat PE/E for Facility-Based Births =
(Pritchard or Zuspan dose) × Total Facility-Based PE/E Cases

COST ESTIMATIONS

Background

A pack of 5 x 5 ampules is currently priced at \$8, which leaves us with a high cost estimate of \$1.60 per 5g/10mL ampule of MgSO₄. Therefore, a full treatment dose (eight ampules) will cost approximately \$12.80. On the low end of the pricing spectrum, wholesale pricing for the same size ampule is around \$0.50. Based on that low price, it will cost \$4 for one full treatment dose of MgSO₄. These two price points are used to

⁷ Malik, Maheen, and Beth Yeager. 2014. *Estimation of Unmet Medical Need for Essential Maternal Health Medicines*. Arlington, VA: Management Sciences for Health.

⁸ Malik, Maheen, and Beth Yeager. 2014. *Estimation of Unmet Medical Need for Essential Maternal Health Medicines*. Arlington, VA: Management Sciences for Health.

quantify total costs for treating PE/E in facilities.⁹

Assumptions

High cost for 5g/10mL ampule = \$1.60

Low cost for 5g/10mL ampule = \$0.50

Key Outputs

High and low cost estimates to treat PE/E with MgSO₄, with the Pritchard or Zuspan dosing regimens

Calculations

Total Cost for All 39g Doses Required to Treat PE/E (Upper Estimate) =
Total 39g Doses Required to Treat PE/E for Facility-Based Births × (\$1.60 per Ampule)

Total Cost for All 39g Doses Required to Treat PE/E (Lower Estimate) =
Total 39g Doses Required to Treat PE/E for Facility-Based Births × (\$0.50 per Ampule)

OXYTOCIN

MARKET ESTIMATION

Background

Oxytocin is the primary drug of choice for the prevention and treatment of PPH. The ideal usage scenario for oxytocin is at facility-based births or in the presence of a skilled provider.

The regular availability of oxytocin is defined as being carried in a facility more than half the time.¹⁰

Although oxytocin can be administered for labor induction and augmentation, we only estimated the market for PPH prevention and treatment.

⁹ Price estimates were gathered from international partners including UNICEF, UNFPA, and IDA Foundation, as well as from the UN Commodities Commission. For more information, please see “International Drug Price Indicator Guide,” 2013, MSH.

¹⁰ Smith, Jeffrey, Sheena Currie, Julia Perri, Julia Bluestone, and Tirza Cannon. 2012. *National Programs for the Prevention and Management of Postpartum Hemorrhage and Pre-Eclampsia/Eclampsia: A Global Survey, 2012*. Washington, DC: MCHIP and USAID.

Assumptions

Birth rate
 Prevalence of PPH
 Percentage of births occurring in a facility setting
 Oxytocin availability at facilities

Key Outputs

Total additional potential market for oxytocin (including for prevention and treatment uses)

Table 2. Summary of Variables: Oxytocin

Variable	Description	Notes
Total Addressable Market for Oxytocin	Total number of annual births	This group represents all women who give birth annually. ¹¹
Total Market for Oxytocin w/o AMTSL [Active Management of the Third Stage of Labor]	Total number of pregnant women who do not receive AMTSL	65% (world), 50% (SSA), and 50% (SEA) of births are attended by a skilled provider. ¹²
Total Market for Oxytocin w/ AMTSL	Total number of pregnant women who receive AMTSL	
Total Market for Oxytocin w/ AMTSL where oxytocin is unavailable	Total number of pregnant women who receive AMTSL but do not receive oxytocin due to low availability	Oxytocin is regularly available in facilities 89% of the time. ¹³

Calculations

$$\text{Total Addressable Market} = (\text{Population} / 1000) \times \text{Births per 1000 persons}$$

$$\text{Total Market w/o AMTSL} = \text{Total Addressable Market} \times (1 - \% \text{ Facility Based Births})$$

$$\text{Total Market w/ AMTSL} = \text{Total Addressable Market} \times \% \text{ Facility Based Births}$$

¹¹ "World Population Data Sheet," 2013, Population Reference Bureau. http://www.prb.org/pdf13/2013-population-data-sheet_eng.pdf.

¹² World Bank. 2014. World Development Indicators 2014. Washington, DC: World Bank.

¹³ Smith, Jeffrey, Sheena Currie, Julia Perri, Julia Bluestone, and Tirza Cannon. 2012. *National Programs for the Prevention and Management of Postpartum Hemorrhage and Pre-Eclampsia/Eclampsia: A Global Survey, 2012*. Washington, DC: MCHIP and USAID.

$$\text{Total Market w/ AMTSL where Oxytocin is Unavailable} = \text{Total Market w/ AMTSL} \times (1 - \% \text{ Oxytocin Availability})$$

$$\text{Total Market w/ AMTSL where Oxytocin is Available} = \text{Total Market w/ AMTSL} \times \% \text{ Oxytocin Availability}$$

DOSAGE ESTIMATIONS

Background

Ideally, all pregnant women delivering at a facility would receive an injection of 10 International Units (IU) of oxytocin for the prevention of PPH. Another 40 IU of oxytocin are to be administered if PPH occurs. Although oxytocin should only be used in a facility-based setting, dosages were calculated for the entire addressable market too. This was done to showcase the entire potential market for PPH prevention and treatment at world, regional, and country levels.¹⁴

Assumptions

- 1 preventive dose for PPH = 10 IU
- 1 treatment dose for PPH = 40 IU

Key Outputs

Total oxytocin doses required for prevention and treatment of PPH at facility-level births and for the total addressable market

Calculations

$$\text{Total 10 IU Prevention Doses for All Births} = 1 \text{ dose} \times \text{Total Annual Births}$$

$$\text{Total 10 IU Treatment Doses for All PPH Cases} = 4 \text{ doses} \times \text{Total PPH Cases}$$

¹⁴ Wilson, Rachel, Kristy Kade, Abiah Weaver, Arianna De Lorenzi, Beth Yeager, Sheena Patel, Kabir Ahmed, Deborah Armbruster, and Jennifer Bergeson-Lockwood. 2012. *Key Data and Findings: Medicines for Maternal Health*. http://www.mchip.net/sites/default/files/2012%20Progress%20Report_Short%20Report.pdf.

Total 10 IU Doses for All Births =
Total 10 IU Prevention Doses for All Births + Total 10 IU Treatment Doses for All PPH Cases

Total 10 IU Prevention Doses for All Facility-Based Births =
1 dose × Total Facility-Based Births

Total 10 IU Treatment Doses for All Facility-Based PPH Cases =
4 doses × Total Facility-Based PPH Cases

Total 10 IU Doses for All Facility-Based Births =
Total 10 IU Prevention Doses for All Facility-Based Births + Total 10 IU Treatment Doses for All Facility-Based PPH Cases

DOSAGE ESTIMATIONS FOR VARIOUS OXYTOCIN CONDITIONS

Background

Oxytocin can also be indicated for other obstetric uses, such as induction and augmentation of labor, in addition to the prevention and treatment of PPH. To quantify these dosages, we assume that oxytocin is used only by skilled providers in facility-based deliveries.¹⁵

Assumptions

- Induction rate
- PPH prevention rate
- Treatment rate of PPH after receiving oxytocin for prevention
- Augmentation rate
- Treatment rate of PPH after receiving misoprostol for prevention

Key Output

Total 10 IU doses of oxytocin required for all conditions, in facility-based births and in the total addressable market

Calculations

¹⁵ Malik, Maheen, and Beth Yeager. 2014. *Estimation of Unmet Medical Need for Essential Maternal Health Medicines*. Arlington, VA: Management Sciences for Health.

Oxytocin Required for Induction at Facilities =
Total Facility-Based Births × 10% of Induced Births × 0.5 dose

Oxytocin Required for Prevention of PPH at Facilities =
Total Facility-Based Births × 100% Prevention of PPH Births × 1 dose

Oxytocin Required for Treatment of PPH After Receiving Oxytocin for Prevention at Facilities =

Total Facility-Based Births × 2.85% Treatment of PPH after Receiving Oxytocin for Prevention × 4 doses

Oxytocin Required for Augmentation of Labor at Facilities =
Total Facility-Based Births × 20% Augmented Births × 1 dose

Oxytocin Required for Treatment of PPH After Receiving Misoprostol for Prevention at Facilities =

Total Facility-Based Births × 6% Treatment of PPH after Receiving Misoprostol for Prevention × 4 doses

COST ESTIMATIONS

Background

Oxytocin costs between \$0.15 and \$0.20 per 10 IU dose.¹⁶ Therefore, a full prevention dose would cost \$0.15 and \$0.20 and a full treatment dose would cost between \$0.60 and \$0.80.

Assumptions

Higher cost of 1 dose (10 IU) of oxytocin = \$0.20¹⁷

Lower cost of 1 dose (10 IU) of oxytocin = \$0.15

Key Outputs

¹⁶ Price estimates were gathered from international partners including UNICEF, UNFPA, and IDA Foundation, as well as from the UN Commodities Commission. For more information, please see “International Drug Price Indicator Guide,” 2013, MSH.

¹⁷ Price estimates were gathered from international partners including UNICEF, UNFPA, and IDA Foundation, as well as from the UN Commodities Commission. For more information, please see “International Drug Price Indicator Guide,” 2013, MSH.

High and low total cost estimates of oxytocin required for various conditions, in facility-based settings and in the total addressable market

Cost differentials were determined by subtracting the lower cost estimates from the higher cost estimates

Calculations

Total Induction Costs for All Births =

Total 5 IU Induction Doses for All Births × High Cost of 5 IU of Oxytocin

OR

Total 5 IU Induction Doses for All Births × Low Cost of 5 IU of Oxytocin

Total Prevention Costs for All Births =

Total 10 IU Prevention Doses for All Births × High Cost of 10 IU of Oxytocin

OR

Total 10 IU Prevention Doses for All Births × Low Cost of 10 IU of Oxytocin

Total Treatment Costs (After Oxytocin for Prevention) for All Births =

Total 40 IU Treatment Doses for All Births × High Cost of 40 IU of Oxytocin

OR

Total 40 IU Treatment Doses for All Births × Low Cost of 40 IU of Oxytocin

Total Augmentation of Labor Costs for All Births =

Total 10 IU Augmentation Doses for All Births × High Cost of 10 IU of Oxytocin

OR

Total 10 IU Augmentation Doses for All Births × Low Cost of 10 IU of Oxytocin

Total Treatment Costs (After Misoprostol for Prevention) for All Births =

Total 40 IU Treatment Doses for All Births × High Cost of 40 IU of Oxytocin OR

Total 40 IU Treatment Doses for All Births × Low Cost of 40 IU of Oxytocin

MISOPROSTOL

MARKET ESTIMATION

Assumptions

Misoprostol is the secondary drug for the prevention and treatment of PPH. When oxytocin is unavailable in a facility setting, misoprostol is then

indicated.

The ideal usage scenario for misoprostol is at community-based births or in the absence of a skilled provider.

It is not known how regularly misoprostol is available in community-based settings. The authors found no literature indicating – for community-based births in low-settings – the percentages that have access to misoprostol. Thus we have assumed in an ideal market: all community-based births receiving misoprostol for both prevention and treatment.

There is a 6% likelihood a woman will develop PPH after receiving misoprostol for prevention.¹⁸ This percentage of women should be taken to a healthcare

facility to receive oxytocin as the primary treatment drug. In an ideal market, misoprostol is only a preventive drug. However, for our analysis, we have assumed 4% likelihood a woman will develop PPH after receiving misoprostol for prevention and be unable to reach oxytocin at a facility, thus requiring a treatment dose of misoprostol.

The regular availability of misoprostol in a facility-based setting was found to be 27%. Although this indicator was used to determine drug availability in a facility-based setting, we chose not assume it is the same in community-based births. This is due to the extreme variability we encountered in community settings.

Although misoprostol can be administered for abortion and miscarriage, we only quantified the market for PPH-specific cases.

Table 3. Summary of Variables: Misoprostol

Variable	Description	Notes
Total Addressable Market	Total number of annual births	This group represents all women who give birth annually. ¹⁹
Total Market w/ AMTSL for oxytocin only	Total number of pregnant women who receive AMTSL but do not receive misoprostol due to low availability. If oxytocin is also unavailable, this group will have no	65% (world), 50% (SSA), and 50% (SEA) of births are attended to by a skilled provider. ²⁰ Misoprostol is regularly available in facilities 27% of the time. ²¹
	uterotonic.	
Total Market w/ AMTSL	Total number of pregnant women who receive AMTSL	

¹⁸ Malik, Maheen, and Beth Yeager. 2014. *Estimation of Unmet Medical Need for Essential Maternal Health Medicines*. Arlington, VA: Management Sciences for Health.

¹⁹ "World Population Data Sheet," 2013, Population Reference Bureau. http://www.prb.org/pdf13/2013-population-data-sheet_eng.pdf.

²⁰ World Bank. 2014. *World Development Indicators 2014*. Washington, DC: World Bank.

²¹ Smith, Jeffrey, Sheena Currie, Julia Perri, Julia Bluestone, and Tirza Cannon. 2012. *National Programs for the Prevention and Management of Postpartum Hemorrhage and Pre-Eclampsia/Eclampsia: A Global Survey, 2012*. Washington, DC: MCHIP and USAID.

for oxytocin or misoprostol	and where misoprostol is available. If oxytocin is unavailable, this group will use misoprostol as a back-up drug.	
Total Market w/o AMTSL	Total number of pregnant women who do not receive AMTSL	65% (world), 50% (SSA), and 50% (SEA) of births are attended to by a skilled provider. ²²

Calculations

$$\text{Total Addressable Market} = (\text{Population} / 1000) \times \text{Births per 1000 persons}$$

$$\text{Total Market w/ AMTSL for Oxytocin Only} = \text{Total Addressable Market} \times \% \text{ Facility Based Births} \times (1 - \% \text{ Misoprostol Facility Availability})$$

$$\text{Total Market w/ AMTSL for Oxytocin or Misoprostol} = \text{Total Addressable Market} \times \% \text{ Facility Based Births} \times \% \text{ Misoprostol Facility Availability}$$

$$\text{Total Market w/o AMTSL} = \text{Total Addressable Market} \times (1 - \% \text{ Facility Based Births})$$

DOSAGE ESTIMATIONS

Background

All women delivering in a community-based setting should receive a prevention dose of misoprostol for PPH prevention. This dose is equivalent to three 200 µg (microgram) tablets of misoprostol, totaling 600 µg.²³

Misoprostol is regularly available in a facility 27% of the time.²⁴ It is important to account for these doses of misoprostol because when oxytocin is unavailable in a facility, misoprostol can be an effective alternative for the prevention of PPH.

²² World Bank. 2014. *World Development Indicators 2014*. Washington, DC: World Bank.

²³ Wilson, Rachel, Kristy Kade, Abiah Weaver, Arianna De Lorenzi, Beth Yeager, Sheena Patel, Kabir Ahmed, Deborah Armbruster, and Jennifer Bergeson-Lockwood. 2012. *Key Data and Findings: Medicines for Maternal Health*. http://www.mchip.net/sites/default/files/2012%20Progress%20Report_Short%20Report.pdf

²⁴ Smith, Jeffrey, Sheena Currie, Julia Perri, Julia Bluestone, and Tirza Cannon. 2012. *National Programs for the Prevention and Management of Postpartum Hemorrhage and Pre-Eclampsia/Eclampsia: A Global Survey, 2012*. Washington, DC: MCHIP and USAID.

Therefore, a secondary preventive market including all community-based births and a percentage of facility-based births is a more realistic representation of the total misoprostol required at delivery.

Assumption

1 dose = 200 μ g

Total prevention dose = 3 doses of 200 μ g = 600 μ g

Calculations

Total 200 μ g Prevention Doses for All Community-Based Births =
3 doses \times Total Addressable Market \times (1 - % Facility Births)

Community-Based Births and Partial Facility-Based Births

Total 200 μ g Prevention Doses for All Community and Partial Facility-Based Births =
3 doses \times (Total Community-Based Births + Total Facility-Based Births \times 27%)

COST ESTIMATIONS

Background

The lower cost of 1 dose (200 μ g) of misoprostol is \$0.15.²⁵ The upper cost of 1 dose (200 μ g) of misoprostol is \$0.48.²⁶ Total cost estimates were determined by multiplying total dosage amounts by cost per 200 μ g of misoprostol.²⁷ Cost differentials were determined by subtracting the lower cost estimates from the higher cost estimates.

Calculations

Total Prevention Costs for All Community-Based Births =
Total 200 μ g Prevention Doses for All Community-Based Births \times Average Cost of 200

²⁵ Price estimates were gathered from international partners including UNICEF, UNFPA, and IDA Foundation, as well as from the UN Commodities Commission. For more information, please see "International Drug Price Indicator Guide," 2013, MSH.

²⁶ Price estimates were gathered from international partners including UNICEF, UNFPA, and IDA Foundation, as well as from the UN Commodities Commission. For more information, please see "International Drug Price Indicator Guide," 2013, MSH.

²⁷ Wilson, Rachel, Kristy Kade, Abiah Weaver, Arianna De Lorenzi, Beth Yeager, Sheena Patel, Kabir Ahmed, Deborah Armbruster, and Jennifer Bergeson-Lockwood. 2012. *Key Data and Findings: Medicines for Maternal Health*. http://www.mchip.net/sites/default/files/2012%20Progress%20Report_Short%20Report.pdf

μg of Misoprostol

Community-Based Births and Partial Facility-Based Births

Total 200 μ g Prevention Doses for All Community and Partial Facility-Based Births =

Total 200 μ g Prevention Doses for All Community and Partial Facility-Based Births ×
Average Cost of 200 μg of Misoprostol